



# The FDC-V: The Task Force XXI Platoon Operations Center

by First Lieutenant F. Michael Marty

**“M**arch order! Time now!” yells the fire direction officer (FDO) to his section after having just received the order to move his platoon operations center (POC) and the Paladin platoon 10 kilometers west down the Central Corridor. The deliberate attack is going well for the friendly force. But due to the swift pace of battle, the guns have to move immediately. The POC won’t be able to displace fast enough to catch up.

Or will it? In the March 1997 Task Force XXI (TF XXI) advanced war-fighting experiment (AWE) at the National Training Center (NTC), Fort Irwin, California, the POC installed in the M992 FA ammunition supply vehicle (FAASV) chassis could move out quickly enough. During the rotation, the POC in its fire direction center vehicle (FDC-V) pulled out of its hide position in a wadi and maneuvered toward the guns in less than two minutes after the march order.

“Send the move order to the guns,” the FDO says over the voice-activated intercom to his battery computer system (BCS) operator. Then with the turn of a knob, the FDO views any of three computer screens in his track—applique, advanced Field Artillery tactical data system (AFATDS) or BCS—on his 21-inch flat panel display screen. This allows him to supervise what all three of his computer operators are inputting into their systems.

He checks the BCS screen. “Roger send it,” the FDO says as he flips back to the Applique screen and says to the fire direction NCO in the commander’s hatch, “I’ve spotted an enemy FASCAM [family of scatterable mines] minefield on East Range Road north of Hill 780 on the Applique. I don’t see any friendlies. Make sure the platoon stays well north of it, and keep your M60 oriented on the North Wall.”

The guns move out in wedge formation, and the POC takes its position at

the point of the second wedge leading the FAASVs. It will be difficult for enemy observers to identify the POC among the other ammunition carrier vehicles.

About three kilometers into the move, the AFATDS operator informs the FDO, “Sir, I’ve got a green gumball for Target Number AQ0008.”

“I verify green gumball for Target Number AQ0008. Send it to the BCS.” With a click of a mouse button, the target is sent to the BCS by wire line. The BCS operator acknowledges, “Fire Mission!”

As the BCS operator inputs the data given by the FDO’s fire order, the section chief tells the driver to maneuver to a temporary hide position out of the guns’ counterfire footprint and calls the platoon on the radio to tell it a fire mission is en route. The POC stops only briefly to allow the chief to verify the data in the BCS is safe and then continues to its hide position as the FDO sends the data to the guns. After the guns fire the mission, the POC falls back into position in the wedge and stands ready to process another fire mission as circumstances demand.

**Testing the FDC-V.** Since 15 December 1995 when its colors were first unfurled at Fort Hood, Texas, the 4th Battalion, 42d Field Artillery (4-42 FA), 4th Infantry Division (Mechanized), was tasked to experiment with many FA systems as the direct support (DS) battalion to the 1st Brigade Combat Team (BCT), Task Force XXI. One such system was the M992 FDC-V, a prototype POC in support of an M109A6 Paladin platoon.

Three FDC-Vs were manufactured by United Defense, two of which went to A Battery, 4-42 FA, one for each platoon. The battery’s mission was to test the FDC-V and compare it to the M1068/M577 command post (CP) carrier, the CP vehicle fielded throughout the Army.

The battery field tested the FDC-V extensively for 13 months, including five battalion field training exercises (FTXs) and culminating with the TF XXI AWE at the NTC. The M992 used as an FDC-V is far superior to the M1068 CP. The vehicle increased the POC’s mobility, survivability and firing capability.

• **Mobility.** The M992 chassis required minimal changes on the outside, but it was outfitted with fire direction operations equipment in the inside, decreasing its overall weight. This allows the FDC-V to outrun the Paladin and its companion FAASV. During the AWE,

the FDC-V maneuvered across desert at more than 45 miles per hour.

The FDC-V complements the Paladin's ability to provide rapid, responsive fires. Unlike the M1068 CP, the FDC-V has all workstations oriented toward the front of the vehicle with five-point safety harnesses for each operator. This setup helps the crew complete POC tasks while on the move and increases its safety. The vehicle also has ample space for seating and storage for the nine crewmembers and their equipment and bags.

The only piece of equipment that prevents the FDC-V from functioning continuously on the move is the 10-meter mast antenna. The vehicle shouldn't move while the mast is extended due to the damage that could occur to the antenna when the vehicle maneuvers over rough terrain.

The mast may be raised or lowered electronically from inside the vehicle in only 35 seconds. The driver sees a warning light when the antenna is raised to keep him from moving the vehicle and possibly damaging the antenna.

**Survivability.** The most obvious survivability characteristic of the FDC-V is that it looks like the FAASVs, with slight variances, which decreases the FDC-V's signature. The FDC-V has five whip antennas versus the FAASV's one and has a carrying case for the mast antenna and an environmental control unit (ECU) in the back. These additions are minor and make it difficult for enemy observers to identify the POC from among the rest of the platoon M992s, especially from long distances.

The fact that the FDC-V is, essentially, an M992 also provides maintenance

parts and tools that are interchangeable with Paladins and FAASVs in the same battery. This increases the FDC-V's survivability and decreases the Army's maintenance and repair costs.

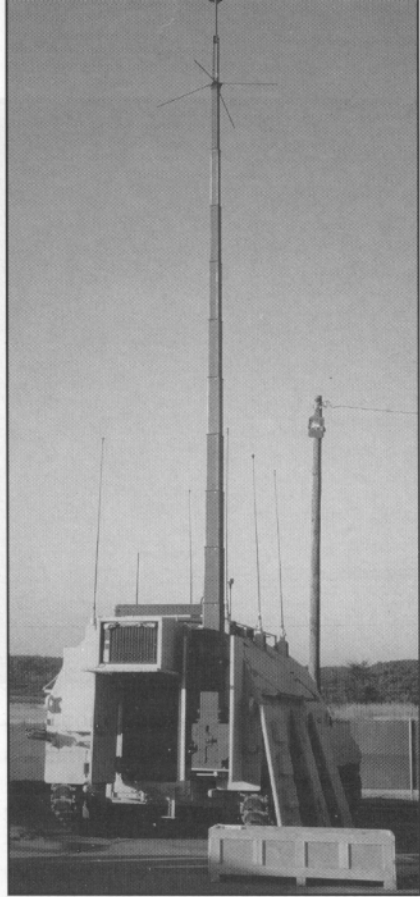
Unlike the M1068, the FDC-V has an ECU, a key to the survival of both the personnel and the computer systems while conducting 24-hour operations in a field environment. With an easy-to-use thermostat, the ECU maintains the optimum temperature for soldier and equipment performance, regardless of the weather conditions.

**Firing Capability.** The FDC-V has the equipment and layout to greatly enhance processing firing missions as compared to the M1068. The AFATDS and BCS operators are side-by-side and within arm's length of the Applique operator. The section chief can stand over the three soldiers and ensure his knowledge and expertise are available to them during operations.

The FDO has his own work area, which includes a desk top, storage for manuals and references, the flat panel display and the situation map. Charts and status boards are posted on the walls so both the section chief and FDO can stay informed of the situation easily. The vehicle has additional space for seating a radio/telephone operator (RTO) and fire mission recorder, and there's still room for the driver to lay down and rest during 24-hour operations.

Similar space and ease of access to systems and information to process fires is not available in an M1068—even with a tent extension.

**The Future.** During the AWE, we ran into a few problems: two ECUs went



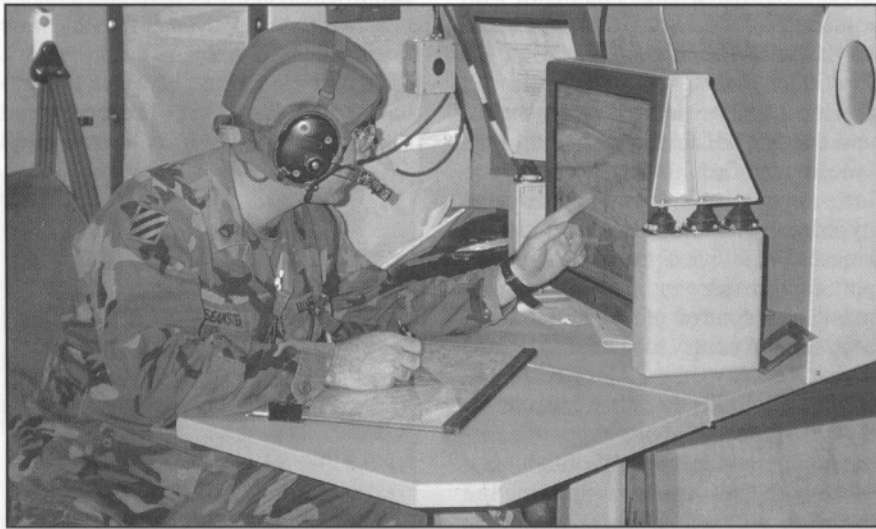
The FDC-V has a 10-meter mast antenna that's extended and lowered remotely from inside the vehicle.

down, the auxiliary power unit (APU) needed more amps to run the vehicle's electrical system and the mast wasn't hardened enough to endure the wind, rain and dust. But the problems were relatively minor and expected while testing a prototype in a tough, realistic environment.

Although the Army hasn't decided whether or not to buy the FDC-V as the POC partner for the Paladin platoon, there's no question in the minds of the crews who spent months operating and testing the vehicle: the FDC-V increases the POC's ability to shoot, move and communicate with a Paladin platoon.



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Staff Sergeant Robert Seamster, fire direction NCO for 2d Platoon, A Battery, 4-42 FA, verifies his map spot of the howitzers using the 21-inch flat panel display.